

Amendment

Amendments to Specification

Please amend the paragraph beginning at line 22 of page 3 as follows:

While IT managers clearly see the value in utilizing managed network services, there are still barriers to adoption. Perhaps the most significant of these is the fear of losing control of the network to the service provider. In order to ease this fear, a successful managed network service offering must provide comprehensive visibility to the customer, enabling them to view configurations and performance statistics, as well as to request updates and changes. By providing IT managers with powerful Customer Network Management (CNM) tools, one can ~~bolters~~ bolster confidence in the managed network service provider and can actually streamline the service provisioning and maintenance cycle.

Please insert the following new paragraphs **after** the paragraph starting at line 21 of page 2 as follows:

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

Embodiments of the present invention are illustrated by way of example, and not by way of limitation, in the figures of the accompanying drawings and in which like reference numerals refer to similar elements and in which:

FIG. 1 conceptually illustrates an example of an IP Service Delivery Platform Application Architecture according to one embodiment of the present invention.

FIG. 2 conceptually illustrates a network-based managed firewall service model according to one embodiment of the present invention.

FIG. 3 is a block diagram illustrating various functional units of an IP network operating system (IPNOS) according to one embodiment of the present invention.

FIG. 4 is a block diagram illustrating the interactions among various object manager layers according to one embodiment of the present invention.

FIG. 5 is a block diagram illustrating the distinction between object classes and object groups according to one embodiment of the present invention.

FIG. 6 conceptually illustrates Object Manager Controller and Database (OMCD) and Object Manager Object Routing and Interface Global (OMORIG) database maps according to one embodiment of the present invention.

FIG 7. conceptually illustrates an Object ID (OID) link in a global database according to one embodiment of the present invention.

FIG. 8 is a block diagram conceptually illustrating an Object Management Object Routing and Interface (OMORI) database layout according to one embodiment of the present invention.

FIG. 9 is an object state transition diagram according to one embodiment of the present invention.

FIG. 10 is a block diagram illustrating various Object Management modules of an IPNOS according to one embodiment of the present invention.

FIG. 11 illustrates a global database state machine in the form of both a global database state transition diagram and table in accordance with one embodiment of the present invention.

FIG. 12 conceptually illustrates the communication for object creation according to one embodiment of the present invention.

FIG. 13 conceptually illustrates how object channels provide a Point-to-Point (P-P) communication mechanism between objects via Connection End Points (CEPs) in the same address space according to one embodiment of the present invention.

FIGS. 14 and 15 conceptually illustrates how services can be pushed onto an object channel that has been established between a first object and a second object according to one embodiment of the present invention.

FIGS. 16A, B and C together represent a table that illustrates the steps for establishing a connection between a local CEP object and a remote CEP object according to one embodiment of the present invention.

FIG. 17 conceptually illustrates how object channels are established between CEPs in different address spaces via a remote channel service according to one embodiment of the present invention.

FIG. 18 conceptually illustrates virtual router (VR) creation with a single object according to one embodiment of the present invention.

FIGS. 19A, B and C together represent a table that illustrates the steps for creating a VR with a single object according to one embodiment of the present invention.

FIG. 20 conceptually illustrates VR creation with multiple objects according to one embodiment of the present invention.

FIGS. 21A, B and C together represent a table that illustrates the steps for creating a VR with multiple objects according to one embodiment of the present invention.

FIG. 22 conceptually illustrates deletion of a VR with multiple objects according to one embodiment of the present invention.

FIG. 23A and B together represent a table that illustrates the steps for deleting a VR with multiple objects according to one embodiment of the present invention.

FIG. 24 illustrates various IPNOS layers that are relevant to creating and maintaining replicas of the master control blade management

information on one or more standby control blades according to one embodiment of the present invention.

FIG. 25 conceptually illustrates control blade redundancy according to one embodiment of the present invention.

FIG. 26 illustrates a control blade redundancy (CBR) state transition diagram for a master control blade according to one embodiment of the present invention.

FIG. 27 illustrates a CBR state transition diagram for a standby control blade according to one embodiment of the present invention.

Please amend the paragraph beginning at line 11 of page 4 as follows:

One such IP Service Delivery Platform 10 is shown in Fig. 1. In the embodiment shown in Fig. 1, IP Service Delivery Platform 10 includes three distinct components: an intelligent, highly scalable IP Service Processing Switch 12, a comprehensive Service Management System (SMS) 14 and a powerful Customer Network Management (CNM) system 16. Service Management System (SMS) 14 is used to enable rapid service provisioning and centralized system management. Customer Network Management (CNM) system 16 provides enterprise customers with detailed network and service performance systems[[, enable]] and enables self-provisioning. At the same time, system 16 eases IT ~~managers~~ managers' fears of losing control of managed network services.

Please amend the paragraph beginning at line 18 of page 5 as follows:

Service providers can use ~~switch 12's~~ virtual routing capabilities of the switch 12, and its ability to turn IP services into discrete and customized objects, to segment and layer services for the first time for tens of thousands of discrete subscriber corporations. In addition, processor capacity can be added to switch 12 by adding new processor blades.

Please amend the paragraph beginning at line 27 of page 5 as follows:

One embodiment of a switch 12 is described in US Patent Application No. 09/661,637 entitled “System and Apparatus for Delivering Security Services,” filed on an even date herewith[[,]] and the description of which is hereby incorporated [[herein]] by reference for all purposes.

Please amend the paragraph beginning at line 11 of page 6 as follows:

In one embodiment, NOS 20 is designed as an open Application Program Interface (API) that allows general-purpose software or new advanced IP services to be ported into the platform from best of breed third parties in a continual fashion, helping to enrich service ~~provider~~ providers’ investment over time.

Please amend the paragraph beginning at line 15 of page 6 as follows:

In one embodiment, NOS 20 includes a distributed messaging layer (DML) 22 component, an object manager (OM) component 24 layered over the DML, control blade redundancy (CBR) 26 for redundant system controllers, a resource manager (RM) 28 for managing separate resource elements and a resource location service (RLS) 30. Resource location service 30 provides load balancing across capable processor elements [[(Pes)]] (PEs) to create an object. PE selection is based on predefined constraints.

Please amend the paragraph beginning at line 7 of page 9 as follows:

An OMORIG agent 42 runs on every Control Blade, whether it is a Master or Standby Blade. Local OMORIs ~~OMORI~~ ~~local sends the change~~ ~~only send changes~~ to the Master. A Control Blade Redundancy (CBR) feature, described below ~~Error! Reference source not found.~~ takes care of replicating and synchronizing the OMORIG database from Maser to Standby.